

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-014464**Date Inspected:** 28-May-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Mr.Huang Min**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Orthotropic Box Girder(OBG)**Summary of Items Observed:**

This CALTRANS OSM Quality Assurance Inspector (QA) Surendra Prabhu was present during the times noted above for observations relative to the fabrication of the Self Anchored Suspension (SAS) Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

BAY-5

This QA Inspector Randomly observed the following work in progress:

ZPMC personnel flame straightening traveler rail flange base plate. The material was heated to a bright red condition and the temperature is above 650°C. Per ZPMC Heat Straightening Report identified as HSR1 (B)-8350, the maximum allowable temperature is 650°C. The AWS D1.5 Section 3.7.3 states that the heated steel shall not exceed 650°C, which gives a dull red color. This QA Inspector observed the 760°C Tempilstik was melted when struck against the red base metal. A temperature indicating crayon, digital temperature measurement gauge, or other similar means of monitoring the temperature was not utilized by ZPMC QC and the actual maximum attained temperature was not measured. The Traveler rail is identified as 20TR2-013. Additionally, this QA Inspector observed ZPMC apply a 13 Ton load on the Traveler rail. ZPMC HSR1 Report doesn't specify the exact weight or weight range to be applied on the TR during heat straightening process.

This QA Inspector generated an incident report for the above issue on this date, for further information see the incident report and attached photograph.

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Submerged Arc Welding (SAW) of weld joint WJF-0-191. Welder is identified as 054458. ZPMC Quality Control (QC) is identified as Mr. Huang Min. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-B-T-3221-TC-U4a-S-1.

BAY-7

Flux Cored Arc Welding(FCAW) buttering welding of Traveler Rail 22TR3-002. Welder is identified as 048625. ZPMC Quality Control (QC) is identified as Mr. Cui Jun Jie. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-345-FCAW-1G (1F)-Repair-1. The repair welding was been performed as per the Caltrans Engineer approved Critical Welding Repair Report (CWR) No: B-CWR1374.

FCAW of weld joint DP3126-001-118/119. Welder is identified as 051246. ZPMC Quality Control (QC) is identified as Mr. Xia Yong Zheng. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-B-T-4132.

ZPMC Personnel performing Heat Straightening for the Traveler Rail (TR) 22TR1-002.Heat straightening was being performed appeared to comply with the Applicable HSR Repot# HSR1 (B)-8051. ZPMC Quality Control (QC) is identified as Mr. Cui Jun Jie.

ZPMC MT Technicians Mr.Tan Chao wei and Jin jian ting was performing Magnetic Particle Testing (MT) for the Traveler Rails (TR) identified as 10TR1-005 and 10TR3-004.This QA Inspector randomly witnessed the MT Inspection. During inspection above said ZPMC MT technicians were observed 2(Two) Transverse linear (crack) indications on weld number identified as 10TR1-005-009 and 10TR3-004-014.The indication length approximately measured to be 7 and 10 mm respectively. The “Y” locations approximately measured to be 2800 and 780 mm from the nearest end of the TR respectively.

As per ZPMC QC identified as Mr. Cui Jun Jie and American Bridge/Fluor (AB/F) QA Inspector identified as Mr. Chang they will take the approval from the Caltrans Engineer to perform the repair of these indications. The attached photos provide additional details.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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Summary of Conversations:

Only general conversation was held between QA and Quality Control (QC) concerning this project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 15000422372, who represents the Office of Structural Materials for your project.

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Inspected By: Prabhu,Surendra

Quality Assurance Inspector

Reviewed By: Hall,Steven

QA Reviewer